Petrogenium. Academy

Upstream (Geophysics)

Seismic Stratigraphy

Consultant / Trainer

Maarten Wiemer/Mark Bouman

In this **Petrogenium (in collaboration with EPTS) Seismic Stratigraphy p**articipants in a seismic stratigraphy course gain advanced skills for hydrocarbon prospectivity evaluation, focusing on interpreting seismic data to understand sedimentary basin geology and predict reservoir, seal, and source rock distribution away from well control. They learn to integrate seismic, well log, and other geological data for improved subsurface predictions, which helps reduce exploration risk and increases the success rate of identifying hydrocarbon plays.

Participants

This **Petrogenium.** course aims at Petroleum geologists and seismic interpreters involved with exploration and development of oil and gas fields.

Learning Objectives

At the end of this course participants will be able to recognize and map seismic facies belts, sediment distribution systems and litho-facies belts, and use this data for prospectivity assessment. The course spends at least 50% of the time on seismic interpretation exercises, based on data from a wide variety of geological settings. Lectures on theory and background alternate with exercises.

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Geophysics

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Learning Objectives

Course content

- Seismic stratigraphy work flow.
- Unconformities, reflection terminations & depositional sequences.
- Seismic facies, geometry of sedimentary bodies.
- Seismic image & lithology prediction.
- Relationship sequence stratigraphy & seismic stratigraphy
- Eustacy, relative sea-level, and sediment distribution patterns.
- Chronostratigraphic charts
- Basin formation processes & sedimentation patterns
- Effect of seismic display/processing on seismic facies expression.
- Usage of velocity information
- Resolution issues.
- Mapping of seismic facies & prospectivity assessment
- Seismic expression of shallow marine clastic, carbonates, turbidites and lacustrine systems

Programme

Day 1

General Course Introduction

Entrance test

1. Introduction to seismic stratigraphy

   Exercise 1.1: general introduction exercise

2. Different depositional sequences

   Exercise 2.1: Labuan syncline

   Exercise 2.2: Melvin Bay

3. Different seismic facies

   Exercise 3.1: Pletmos basin

Day 2

Review key points Day 1

4. Geometry of sedimentary bodies

   Exercise 4.1: interpreting body shapes

5. Effect of seismic processing on seismic facies expression; importance of display parameters

   Exercise 5.1: Facies & Resolution

6. Seismic velocity and lithology prediction

   Exercise 6.1: Lithology-seismic facies, using velocity information (offshore Morocco).

Why select Petrogenium.?

The above support will be provided by principal consultants with 30+ years world-class experience in the technology and hands-on know-how from operation of refinery units.

Because Experience Matters

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Programme

Day 3

Review key points Day 2

7. Chronostratigraphy

   Exercise 7.1: Mar Cantabrico, Spain

   Exercise 7.2: Sulawesi

8. Sedimentation patterns and sea-level changes

   Exercise 8.1: Gulf of Cadiz (Spain)

9. Carbonate systems

   Exercise 9.1: Bali-Flores

Day 4

Review key points Day 3

   Exercise 9.2: Maldives

10. Clastic systems: Coastal - shallow marine

    Exercise 10.1: Niger delta

11. Clastic systems: Turbidites

    Exercise 11.1: Turbidites

    Exercise 11.2: sand-seal prediction

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Day 5

Review key points Day 4

12. Continental deposits

    Exercise 12.1: Bohai Bay

13. Facies mapping

    Exercise 13.1: North Sea facies mapping

14. Reservoir scale seismic stratigraphy

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